

PATENT
(Docket No. PAT 01 153)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
Christina Alpert
Heinz-Peter Rink

Serial No.: This application is a
National Phase Application of
PCT/EP2004/052348, filed 21
September 2004, which claims priority
to DE 10346157.4, filed 4 October
2003

Filed: herewith

For: Auxilliary Liquid Rheological
Medium, Method for the
Production and Use Thereof

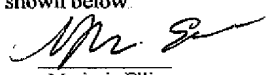
Group Art Unit: Unknown

Examiner: Unknown

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March 22, 2006

Date


Marjorie Ellis

Box PCT
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

This preliminary amendment is submitted with the application for entry into the
U.S. National Phase under Chapter II. This application is a National Phase
Application of PCT/EP2004/052348, filed 21 September 2004, which claims
priority to DE 10346157.4, filed 4 October 2003.

In connection with the filing of this National Phase application, please make the
following preliminary amendments.

In the Specification:

Please delete the title and insert the following title.

Auxilliary Liquid Rheological Medium, Method for the Production and Use
Thereof

Page 1, following the title, insert: Cross Reference to Related Applications

This application is a National Phase Application of PCT/EP2004/052348, filed 21
September 2004, which claims priority to DE 10346157.4, filed 4 October 2003.

Page 1, line 3, insert before the first paragraph: Field of the Invention

Page 1, line Background of the Invention

Page 5, line 6, insert: Summary of the Invention

Page 1, line 10, insert: Background of the Invention

Page 7, line 13, insert: Detailed Description of the Preferred Embodiments

Please delete the Abstract and substitute with the following:

Abstract

Abstract

A liquid rheological aid comprising at least one urea derivative preparable which is the reaction product of at least one compound having at least one isocyanate group and at least one co-reactant selected from primary and secondary monoamines and polyamines and water reacted in the presence of organobismuth catalyst, process for the preparation thereof and its use.

Please make the following amendments to the claims.

1 (Currently Amended) A liquid rheological aid comprising

- (A) at least one urea derivative ~~preparable~~ prepared by reacting
 - (a1) at least one compound having at least one isocyanate group with
 - (a2) at least one co-reactant selected from the group consisting of primary monoamines and polyamines, ~~and secondary monoamines and polyamines and also water,~~ in the presence
 - (a3) of at least one organobismuth catalyst; and

B) at least one additive.

2. (Original) The rheological aid as claimed in claim 1, wherein the organobismuth compound (a3) is selected from the group consisting of bismuth salts of organic carboxylic acids and complexes of bismuth with chelating agents

3 (Original) The rheological aid as claimed in claim 2, wherein the organic carboxylic acids are aliphatic carboxylic acids

4.(Original) The rheological aid as claimed in claim 3, wherein the aliphatic carboxylic acids are monocarboxylic acids.

5.(Original) The rheological aid as claimed in claim 4, wherein the monocarboxylic acids contain long-chain alkyl groups.

- 6.(Original) The rheological aid as claimed in claim 5, wherein the long-chain alkyl groups contain 6 to 16 carbon atoms.
- 7.(Original) The rheological aid as claimed in claim 6, wherein the monocarboxylic acids are selected from the group consisting of octanecarboxylic acid, 2-ethylhexanecarboxylic acid, and neodecanecarboxylic acid.
- 8.(Original) The rheological aid as claimed in claim 2, wherein the chelating agents are nonaromatic compounds.
- 9.(Original) The rheological aid as claimed in claim 8, wherein the chelating agents contain at least two functional groups capable of coordination to metal atoms or metal ions.
- 10.(Original) The rheological aid as claimed in claim 9, wherein the functional groups are electron donors.
- 11.(Original) The rheological aid as claimed in claim 9 or 10, wherein functional groups capable of coordination to metal atoms or metal ions are carbonyl groups.
- 12 (Original) The rheological aid as claimed in claim 11, wherein the chelating agents are 1,3-diketones.
- 13.(Original) The rheological aid as claimed in claim 12, wherein the diketones are selected from the group consisting of acetylacetone, ethyl acetoacetate, tetramethylheptanedione, and hexafluoropentanedione.

- 14.(Currently Amended) The rheological aid as claimed in ~~any of claims 1 to 13~~claim 1, wherein the molar ratio of isocyanate groups (NCO) in the compounds (a1) to bismuth (Bi) in the organobismuth compounds (a3) is from 300 : 1 to 20 : 1.
- 15.(Original) The rheological aid as claimed in claim 14, wherein the NCO : Bi molar ratio is from 260 : 1 to 25 : 1.
- 16.(Currently Amended) The rheological aid as claimed in ~~any of claims 1 to 15~~claim 1, comprising the urea derivative (A) in an amount, based on the rheological aid, of more than 10% by weight.
- 17.(Original) The rheological aid as claimed in claim 16, comprising the urea derivative (A) in an amount, based on the rheological aid, of more than 10 to 20% by weight.
- 18.(Currently Amended) The rheological aid as claimed in ~~any of claims 1 to 17~~claim 1, wherein the urea derivative (A) is crystalline.
- 19 (Original) The rheological aid as claimed in claim 18, wherein the urea derivative crystals (A) are acicular with a full or partial helical twist.
- 20.(Currently Amended) The rheological aid as claimed in claim 18 ~~or 19~~, wherein the urea derivative crystals (A) have a particle size of from 0.1 to 6 μm .
- 21.(Original) The rheological aid as claimed in claim 20, wherein 80% of the urea derivative crystals (A) are $< 2 \mu\text{m}$.

22. (Currently Amended) The rheological aid as claimed in ~~any of claims 1 to 21~~claim 1, wherein the additive (B) is selected ~~in particular~~ from the group consisting of pigments, oligomeric and polymeric binders curable physically, thermally and/or with actinic radiation, crosslinking agents curable thermally or both thermally and with actinic radiation, reactive diluents curable thermally and/or with actinic radiation, organic solvents, water, UV absorbers, light stabilizers, free-radical scavengers, devolatilizers, slip additives, polymerization inhibitors, defoamers, emulsifiers, wetting agents, dispersants, adhesion promoters, leveling agents, film-forming auxiliaries, flame retardants, siccatives, dryers, antiskinning agents, corrosion inhibitors, waxes, and flattening agents and mixtures thereof.

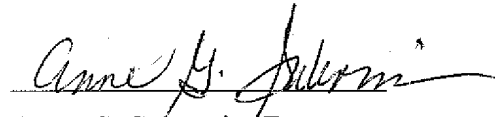
23. (Currently Amended) A process for preparing a liquid rheological aid comprising at least one urea derivative (A) and at least one additive (B), as claimed in ~~any of claims 1 to 22~~claim 1, which comprises preparing the urea derivative (A) by reacting at least one compound (a1) having at least one isocyanate group with at least one co-reactant (a2) selected from the group consisting of primary and secondary monoamines and polyamines and also water, in the presence of at least one organobismuth catalyst (a3), in at least one liquid additive (B).

Please cancel claims 24-26, without prejudice.

REMARKS

Upon entry of the preliminary amendment, claims 1-23 are pending in the application. Claims 24-26 are canceled without prejudice. The claims have been amended to comport with U.S. Patent Office regulations. Examination of the claims is respectfully requested.

Respectfully submitted,



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